

DNA Fingerprinting Current Perspectives and Challenges in India – An Analysis

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ABSTRACT:

Correct identification of accused and victims of a crime is always been a legal problem for the criminal investigation. DNA is the genetic blueprint of life which is unique for everyone and the identification through DNA profiling has brought a sea change in the identification scenario. Since the discovery of DNA technology it has been used extensively as evidence in the court of law world-wide to establish the individual identity both in civil and criminal matters. But there are no special legislation/ provision under Indian Evidence Act, 1872 or Code of Criminal Procedure, 1973 to manage Forensic science issues. Section 45 of the IEA provides for expert opinion which includes medical examination but it was only after the amendment of CrPC in 2005, DNA profiling is been recognized to an extent in Section 53, 53A and 164A of CrPC for using DNA by medical practitioner for examination. Further the admissibility of DNA Evidence before the court is debatable and unsettled as the Judiciary having different interpretations for their admissibility due to constitutional and legal validity of such tests being conducted in human beings. The Challenges also include proper handling procedures during selection, collection, packaging, labeling, storing, and transportation of evidence to the laboratory to achieve final valid and reliable results. The researcher would suggest on a statutory recognition of DNA evidence in India, to regulate usage of DNA forensic laboratories and to establish national DNA database as recommended in Malimath committee to increase its appreciation value. This project will be a doctrinal method of research which would be divided into 2 Parts. Part I will deal with the introductory part of what is DNA profiling and its procedure of doing it, Provisions in law which deals with DNA profiling, accuracy, reliability and their admissibility in court of law. Part II will deal with the challenges and issues regarding DNA profiling and conclusion part with suggestions to the issues and challenges.

KEYWORDS: -DNA Fingerprinting, DNA Profiling, Indian Evidence Act, National legislation, malimath committee.

I. DNA FINGERPRINTING – ETYMOLOGY, MEANING AND PROCEDURE

“Any sufficiently advanced technology is indistinguishable magic”

– Arthur C. Clarke

Forensic evidence is a discipline that functions within the parameters of the legal system. It provides guidance to those conducting criminal investigation and to supply to courts the information upon which the civil and criminal disputes are resolved. One such Forensic evidence which is used is “DNA Fingerprinting”. DNA testing or genetic fingerprinting is a technique used to identify person by analyzing DNA from their tissue¹. DNA (deoxyribonucleic acid) is broadly termed as ‘genetic blueprint of life’². The structure of DNA is a double helix twisted ladder one and it is unique to every individual with an exception of identical twins DNA testing or genetic fingerprinting is a technique used to identify person by analyzing DNA from their tissue.

¹ It can be extracted from blood and blood stains, semen and semen stains, hair and hair roots, fingernail pairings, tooth canal root pulp, body tissues and body organs, bone marrow and bones, saliva, urine, foetal material, other body fluids etc.

² Patel, Nirpat, “The Role of DNA in Criminal Investigation – Admissibility in Indian Legal System and Future Perspectives”, INTERNATIONAL JOURNAL OF HUMANITIES AND SOCIAL SCIENCE INVENTION, Volume 2, Issue 7, July 2013, available at www.ijhssi.org

According to Black's Law Dictionary,

“DNA identification is a method of comparing a person's DNA, a patterned chemical structure of genetic information, with a DNA in a biological specimen to determine whether the person is the source of specimen.”³

Every individual has a unique DNA in their genetic codes and this can be used as a forensic tool as evidence. The idea of using DNA fingerprint as evidence emerged decades ago. It was in 1984, research and insights by Dr Alec Jeffreys at the University of Leicester, UK, led to the development of a procedure initially known as DNA fingerprinting.⁴ They used this technique to identify the accused of a rape of two girls in Leicestershire. With a bit of luck, the technique was able to identify the accused. This successful conviction made the UK to set up the United Kingdom National DNA Database (NDNAD). This was followed in many countries like US which set up Combined DNA Index System (Codis) under the control of Federal Bureau of Investigation. In India, the usage, applicability and admissibility of DNA evidence is unsettled and it is regard that the first DNA case verdict in India came in 1990⁵ only where DNA test was done by Dr. Lalji Singh who is regarded as the Father of DNA fingerprinting in India.⁶ The usage of DNA testing has increased in such a way that it is extensively used to identify criminals and in maternity or paternity issues.⁷



Figure 1 – Double Helix structure of DNA

³ See <https://thelawdictionary.org/>, accessed on 30th March 2018

⁴ Prof. Jeffrey used this technique for the forensic DNA investigation of two teenage girls who were murdered in a narborough village in United Kingdom. After the analyzation and matching of suspects sample with deceased sample (semen), Prof. Jeffrey's found that suspect was falsely charge sheeted in that case because his DNA sample was different with the sample found on and collected from the person of deceased. After that the suspect was exonerated by the first use of DNA analysis by Prof. Jeffrey and his colleagues. see Zaidi's Singh, "DNA test in Criminal Investigation, Trial and Paternity disputes", Alia Law Agency, Allahabad, 2007

⁵ The Chief Judicial Magistrate held that "Just like the opinion of a chemical analyst or like the opinion of a fingerprint expert, opinion of PW4, who is also an expert in the matter of cellular and molecular biology, is also acceptable under Section 45 of the Indian Evidence Act."

⁶ The first DNA Fingerprinting was used in India for testing paternity of a child in Kerala where the court admitted the DNA as a admissible evidence. See Dr. Himanshu Pandey, "Evidential Value of DNA : A Judicial Approach", BHARATI LAW REVIEW, Jan – March, 2017. See also "Use of DNA Fingerprinting in Indian Criminal Law", <https://blog.ipleaders.in/use-dna-fingerprinting-indian-criminal-law/>.

⁷ Katherine L. Moss, *The Admissibility of TrueAllele: A Computerized DNA Interpretation System*, WASHINGTON & LEE LAW REVIEW, (2015), <http://scholarlycommons.law.wlu.edu/wlulr/vol72/iss2/11>.

II. GENERAL PROCESS OF DNA ANALYSIS

Forensic use of DNA samples begins with their collection from the crime or incident scene and ends with the presentation of the data at court or enquiry. An outline of the procedure is as follows:-

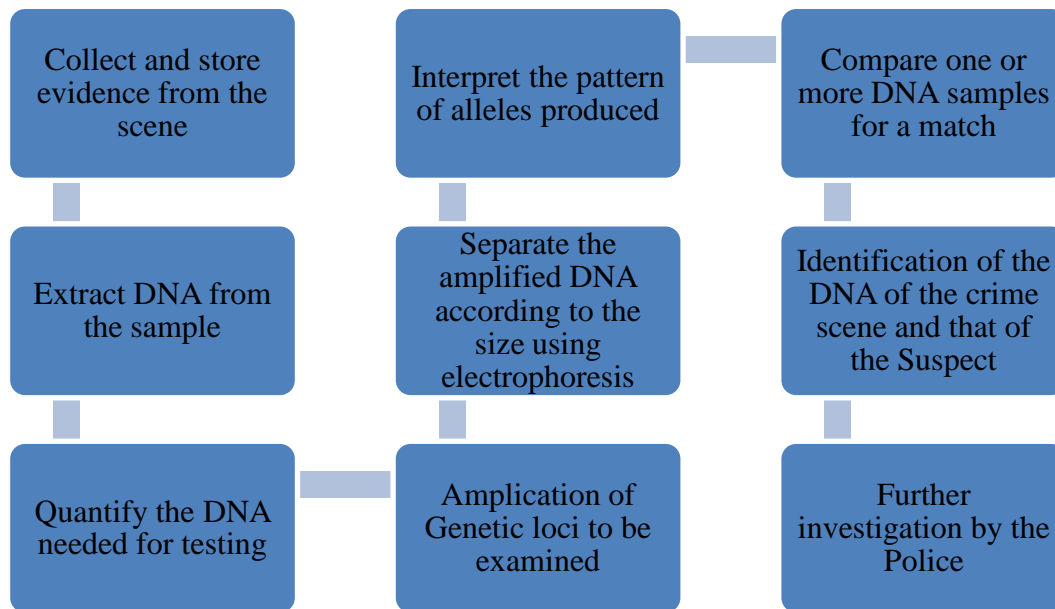


Figure : The process of DNA Profiling

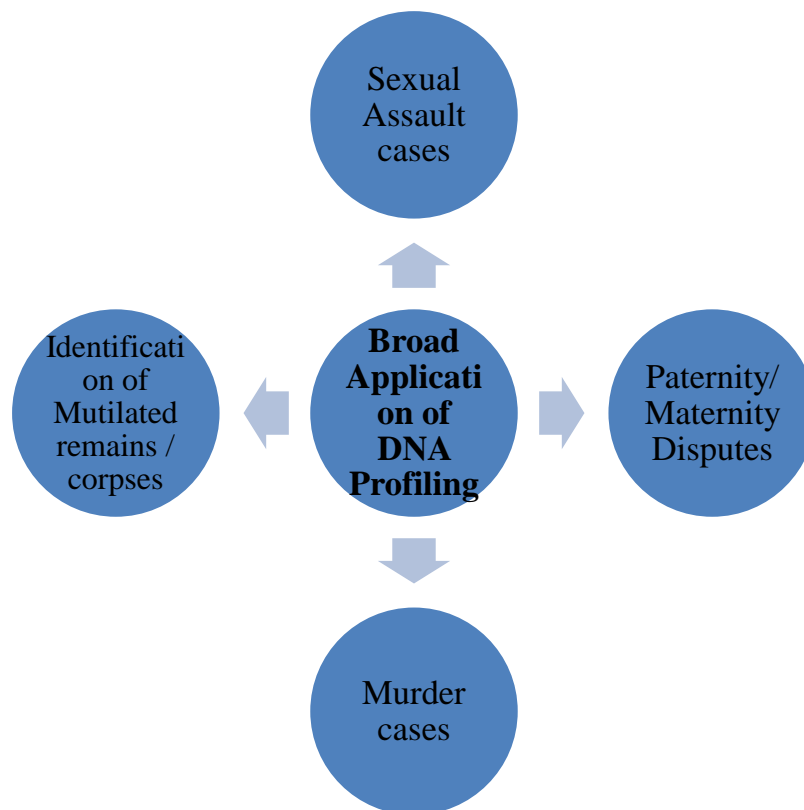


Figure :- Broader Application of DNA Fingerprinting

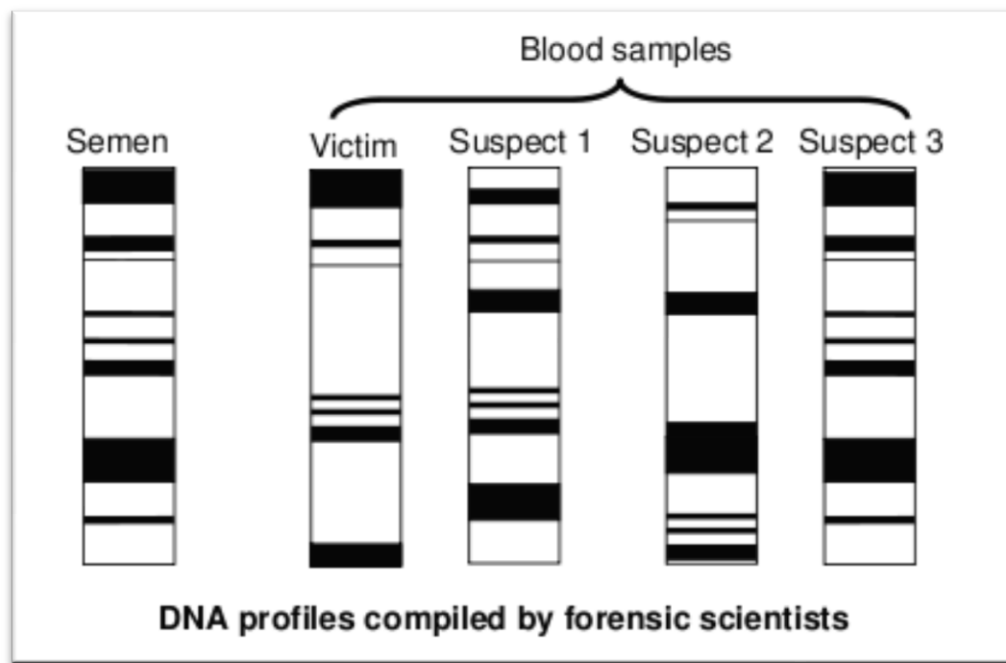


Figure :- The comparison of the samples of the semen from victim and the blood samples collected from suspect.

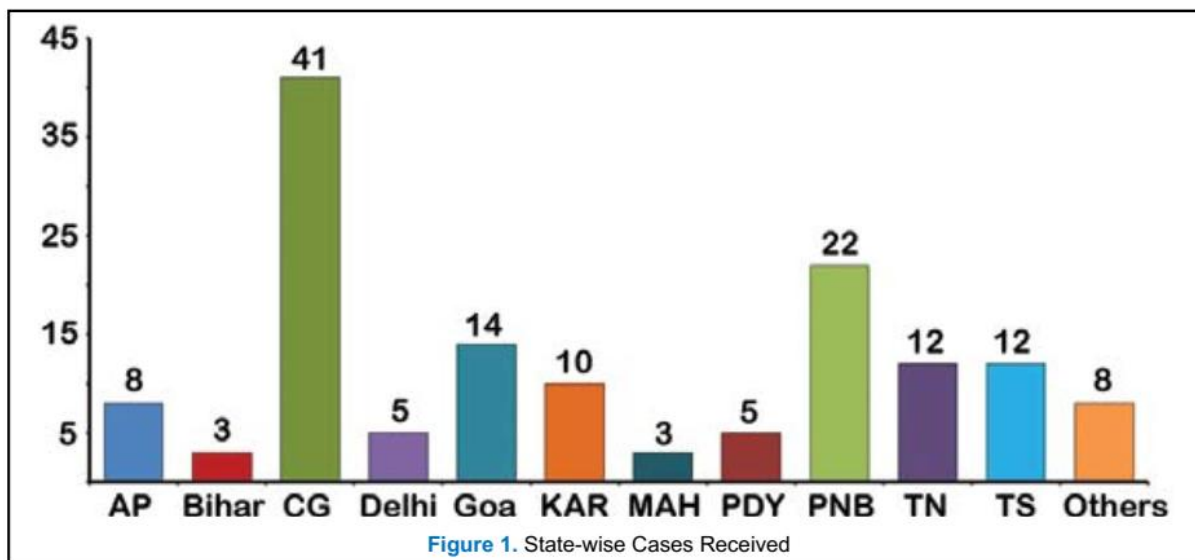
Biological relationship	19
Identity of deceased	162
Murder	19
Paternity/ maternity	98
Sexual assault (Rape)	99
Total	143

Table – Details of DNA fingerprinting cases taken by CDFD during 2015 - 16

Biological relationship	21
Identity of deceased	38
Murder	02

Paternity/ maternity	70
Sexual assault (Rape)	12
Total	143

Table – Details of DNA Fingerprinting cases taken by CDFD during 2016 - 17



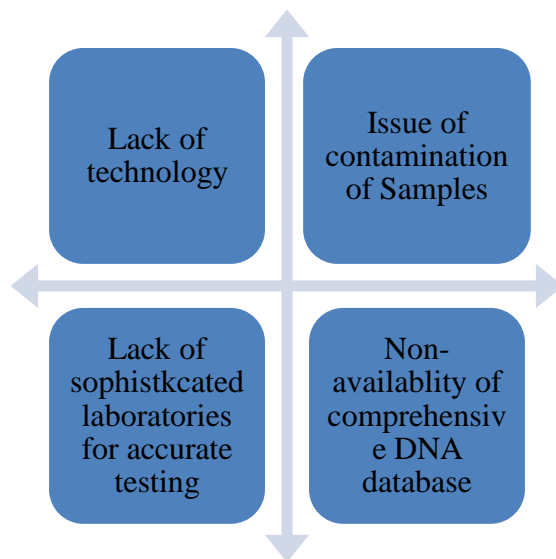
III. BENEFITS OF DNA FINGERPRINTING

1. It is been stated that 99% of the DNA test are having accuracy in identifying the suspects involved in the crime.
2. The test of reliability of DNA test as proved that it is the most reliable evidence which is used in the court of law.
3. DNA typing is unique because of the range of forensic samples that it can test from potential samples including blood, semen, hair and skin scrapings etc.
4. DNA typing can also be performed on forensic samples that have dried and aged, whereas traditional tests cannot.

IV. OBSTACLES IN WAY OF ADMITTING DNA PROFILING

The courts in India are reluctant in admitting DNA evidence. Some of the reasons for this are :-

1. Firstly, Technology has still not developed in India with only institutes like Centre of DNA Fingerprinting and Diagnostics is having the adequate infrastructure and the facilities to conduct the DNA tests.
2. Secondly, the issue of contamination of samples is a big obstacle for the courts to admit DNA Evidence which is due to no adequate institutionalized laboratories.
3. Thirdly, non-availability of a comprehensive database for identification of persons which eventually leads to late disposal of cases.



V. ADMISSIBILITY OF DNA EVIDENCE IN INDIA

In criminal justice system, the use of DNA testing for matters of identification is becoming more widespread. **Section 53⁸ and 54⁹** of the Code of Criminal Procedure, 1973 provide for DNA test and are used for identification of DNA in criminal investigation. The Code of Criminal Procedure was amended to add a new section by the Amendment Act of 2005, which provides the examination of a person accused of rape by a

⁸SECTION 53 OF CRPC. EXAMINATION OF ACCUSED BY MEDICAL PRACTITIONER AT THE REQUEST OF POLICE OFFICER.

(1) When a person is arrested on a charge of committing an offence of such a nature and alleged to have been committed under such circumstances that there are reasonable grounds for believing that an examination of his person will afford evidence as to the commission of an offence, it shall be lawful for a registered medical practitioner, acting at the request of a police officer not below the rank of sub-inspector, and for any person acting in good faith in his aid and under his direction, to make such an examination of the person arrested as is reasonably necessary in order to ascertain the facts which may afford such evidence, and to use such force as is reasonable for that purpose.

⁹SECTION 54 OF CRPC. EXAMINATION OF ARRESTED PERSON BY MEDICAL PRACTITIONER AT THE REQUEST OF THE ARRESTED PERSON.

When a person who is arrested, whether on a charge or otherwise alleges, at the time when he is produced before a Magistrate or at any time during the period of his detention in custody that the examination of his body will afford evidence which will disprove the commission by him of any offence or which will establish the commission by any other person of any offence against his body, the Magistrate shall, if requested by the arrested person so to do direct the examination of the body of such person by a registered medical practitioner unless the Magistrate considers that the request is made for the purpose of vexation or delay or for defeating the ends of justice.

medical practitioner. New explanations were included like sweat, hair sample, swabs, fingernails, blood, blood stains, semen, sputum by using modern technique which is necessary in case of sexual offences. The admissibility of DNA evidence has been given much emphasize under Indian Evidence Act, 1872 under **Section 45¹⁰** which deals with opinion of expert.

It is also pertinent to note that there is no specific legislation or no special provision for DNA either in Indian evidence Act, 1872 or Code of Criminal Procedure, 1973. Due to lack of having a proper guiding procedure, the investigating officers face much trouble in collecting evidences which involves the modern mechanism and technology to prove the accused person guilty. Also, the opinion of the Supreme court and High court are varying with regard to their admissibility. Judges do not deny the use of scientific developments to solve criminal cases in more accurate manner but the problem of self-incrimination and privacy safeguards come as a blockade to the use of DNA as evidence. To analyze the opinions of the Courts in India regarding the usage of DNA evidence, the researcher has collected various important judgments in which the issue of DNA evidence was raised for the past 15 years (2003 -2018).

VI. JUDICIAL APPROACH TOWARDS THE ADMISSIBILITY OF DNA AS EVIDENCE

S.No	Year of the case	Forum	Case Name	Ratio
1.	2003	Andhra Pradesh High Court	Patangi Balarama Venkata Ganesh v State of A.P (2003 Cr L.J. 4508(A.P)	Opinion of DNA expert is admissible in evidence as it is a perfect science.
2.	2003	Supreme court of India	Sharda v. Dharmpal (2003) 4 SCC 493	A matrimonial court has the power to order a person to undergo medical test and such powers are not in violation of Article 21 of the Indian Constitution.
3.	2003	Supreme	Amarjit Kaur v HarBhajan	DNA test is said to be scientifically correct and

¹⁰SECTION 45 OF INDIAN EVIDENCE ACT - OPINIONS OF EXPERTS.

When the Court has to form an opinion upon a point of foreign law or of science or art, or as to identity of handwriting 35 [or finger impressions], the opinions upon that point of persons specially skilled in such foreign law, science or art, 36 [or in questions as to identity of handwriting] 35 [or finger impressions] are relevant facts. Such persons are called experts

		Court of India	Singh (2003) 10 SCC 228	reliable.
4.	2005	Supreme Court of India	State of UP v. AmaramaniTripathi AIR 2005 SC 3490	The SC relied upon the DNA test reports as evidence to adduce paternity.
5.	2007	Bombay High court	Raghuvir Desai v State (2007 Cri LJ 829)	The Bombay high court held that DNA testing is clinching piece of evidence. DNA testing can make a virtually positive identification when two samples matches. It exonerates innocent and helps to convict the guilty
6.	2009	Madras High Court	J.Veeran v. Veeravarmalle AIR 2009 Mad.64	The Court directed the father to undergo DNA test and held it is not affecting his FR under Article 21 of the Indian Constitution.
7.	2010	Supreme Court of India	Bhabani Prasad v Orissa State Commission for Women and Another (2010) 8 SCC 633	In matter of paternity of child is in issue before the court, the use of DNA is an extremely delicate and sensitive aspect. The court must exercise its discretion only after balancing the interests of the parties and on due consideration whether for a just decision in the matter, DNA is eminently needed. DNA

				test is not an invasion of right to life.
8.	2010	Supreme Court of India	Santhosh kumarsingh v State through CBI	The Court made DNA fingerprinting admissible to make Santhosh kumar guilty of both rape and murder.
9.	2010	Supreme court of India	Selvi v. State of Karnataka AIR 2010 SC 1974	SC held that use of DNA for the purpose of comparison and identification does not amount to testimonial act for the purpose of Article 20(3).
10.	2011	Supreme Court of India	SurendraKoli v State of U.P (2011) 4 SCC 80	While confirming the death sentence, the court relied on the result of the DNA.
11	2011	Supreme court of India	Inspector of Police, Tamil Nadu v John David (2011)5 SCC 509	Based on the DNA, the identification of the deceased was proved.
12	2011	Supreme Court of India	Krishan Kumar Malik v State of Haryana (2011)7 SCC 130	The court ordered for DNA test invoking Section 53A of CrPC.
13.	2012	Supreme Court of India	Narayan Dutt Tiwari v RohitShekhar and Another (2012) 12 SCC 554	The SC upheld the order of Delhi HC in conducting DNA test to prove the paternity issue. DNA test proved that Rohitshekhar

				was the biological son of ND Tiwari.
14	2012	Supreme Court of India	Mohammed Ajmal Mohammad Amir Kasab v State of Maharashtra (2012) 9 SCC 1	The stains of sweat, saliva and other bodily secretions were subjected to DNA test.
15	2014	Supreme Court of India	Anil @ Anthony Arikswamy Joseph v State of Maharastra (2014) 4 SCC 69	The SC relying on scientific evidences including DNA profile and oral evidences, the accused was convicted and punished with death sentence.
16	2014	Supreme Court of India	DharamDeo Yadav v. State of Uttar Pradesh	The court held that for crime detection, forensic science like DNA evidence need to be used.
17.	2014	Supreme Court of India	NandlalWasudeoBadwik v. LataNandlalBadwaik&Anr	The Supreme court ordered for conducting DNA test for ascertaining the paternity of the child.
18	2014	Bombay High court	AmmolsinghSwarnsinghJabbal v. The state of Maharastra	The court relied upon DNA evidence.
19	2015	Supreme court of India	Rajkumar v State of Madhya Pradesh (2014) 5 SCC 353.	In this case, Conviction was recorded based on DNA reports collected from vaginal swabs
20	2016	Supreme court of India	Anita M/O EknathKatkar v. Additional Commissioner	The SC in this case ordered for the DNA Test and the

			Kashik&ors	child got relief .
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By analyzing the cases, it is seen that the Supreme court has been vigilant in ordering DNA evidence. It is utilizing the scientific evidence for the better identification and in particular the DNA which is 99.9% distinct and unique is been used by the courts. The Supreme court has from time to time held that when there is a strong prima facie case to conduct DNA profiling for identification then it must order for DNA test. It can be stated that the appropriate test to be taken by the courts when deciding upon the use of DNA evidence is the “**Test of Eminent Need**”¹¹. According to this test, the court must exercise its discretion in allowing DNA as evidence only when there is ‘eminent need’ as to the facts in issue of the case.

VII. NEED OF SEPARATE DNA LEGISLATION IN INDIA

Although there is a usage of scientific technology like DNA Fingerprinting in India where the courts deem fit it to be relied upon, but the problem does not end here. The admissibility of DNA Test in the courts would be of greater weightage and legal backup only when there is a independent legislation regarding the DNA usage. The Act must spell out the procedure and usage of DNA so as to be reliable and accurate in the courts of law. The initiative of having a separate legislation for DNA testing was started in 2003 when a committee was established to make recommendation. They DNA profiling bill, 2006 was introduced which later became the Human DNA Profiling Bill, 2007.¹² This bill was improved and now it is the Draft made by 271st Law commission called “*The DNA –Based Technology (Use and Regulation) Bill, 2017*” that is in consideration. This bill must also contain certain provisions for the dignity and privacy of all the citizens. Thus this bill should be DNA and Dignity Bill.¹³ The researcher is of strong opinion that this Bill must be made as law for the Country that can make the usage of DNA and regulate their usage.

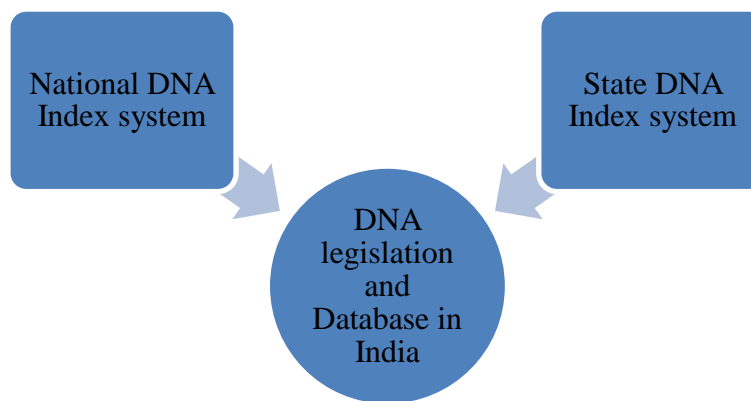
The purpose of the proposed legislation:-

1. Firstly, it would provide the investigating agency a specific guideline for collection and preservation of DNA samples from the crime spot.
2. Secondly, it would provide specific objective guideline to the trial judge to evaluate the DNA Evidence properly.
3. Thirdly, this scientific legislation gives a fixed standard of procedure for extracting and evaluating the DNA from the samples collected by the investigating agency.

¹¹Bhabani Prasad Jena v Convenor Secretary, Orissa State Commission for Women and Another(2010) 8 SCC 633

¹²Elonnai Hickok, “Rethinking DNA Profiling in India”, ECONOMIC & POLITICAL WEEKLY, October 2012

¹³See Dr. Himanshu Pandey, “Evidential Value of DNA : A Judicial Appraoch”, BHARATI LAW REVIEW, Jan – March, 2017



The draft DNA Based technology (Use and Regulation) Bill, 2017 has mechanisms for safeguarding the DNA samples and also from the misuse of data. According to PRS Legislative Research, the key features of the draft Bill include:-

1. The Bill proposes to formulate a DNA Profiling board which will be responsible for supervising, monitoring, inspecting and assessing DNA laboratories and data banks in India.¹⁴
2. The Bill proposes to have a National DNA Data Bank and Regional Data Banks for States¹⁵. The national data bank will receive the information from the regional data bank and it is stored. Further, only accredited laboratories are only allowed to conduct DNA test and the DNA profiles from the accredited laboratories are stored in the data banks..¹⁶
3. The Bill states that the DNA Profiling would be only taken for the purpose of identification of a persona and will not be used for any other purposes.¹⁷
4. The bill also states that the no further bodily substances will be taken without the consent of the person.¹⁸
5. Further, the violators of the provisions would be liable for imprisonment which may extend up to three years and includes a fine.¹⁹

VIII. DNA DATABASE ARE AN EFFECTIVE TOOL FOR IDENTIFICATION

Experience in the U.K and the U.S. indicates unambiguously that DNA database are an effective investigative tool, having aided many thousands of investigations. In the U.K., the Forensic science service (F.S.S) reports

¹⁴See Section 4 of the Draft DNA Based technology (Use and Regulation) Bill, 2017

¹⁵See Section 25 of the Draft DNA Based technology (Use and Regulation) Bill, 2017

¹⁶See Section 13 of the Draft DNA Based technology (Use and Regulation) Bill, 2017

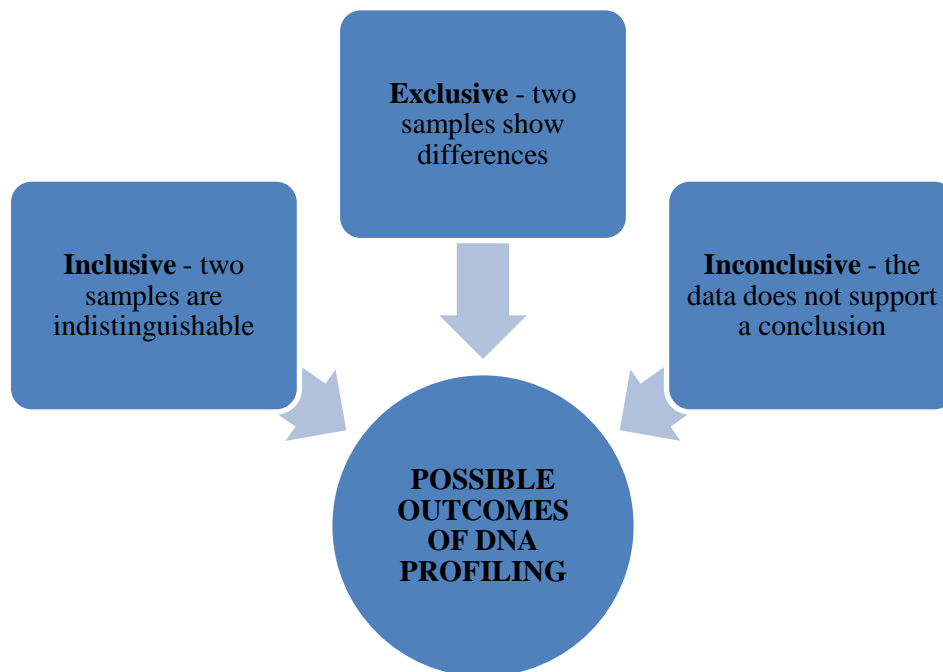
¹⁷See Section 33 of the Draft DNA Based technology (Use and Regulation) Bill, 2017

¹⁸See Section 21(1) of the Draft DNA Based technology (Use and Regulation) Bill, 2017

¹⁹See Chapter VIII of the Draft DNA Based technology (Use and Regulation) Bill, 2017

that approximately one in ten adult males are now in the database, and there is a 40 percent chance that probative biological evidence from any given crime. In the US, all 50 states have passed statutes authorizing the creation of DNA databases.²⁰

There are 3 possible outcomes of Profile comparison through DNA Profiling :-



DNA database will be a great aid to the law enforcement bodies in a way of identification of persons. When there is a crime scene and DNA samples are collected from suspects then it can be matched with the DNA samples which are already stored in the DNA database. In this way DNA database is an indispensable tool for the identification of person. Therefore, DNA database is a need of the hour. The states must establish Regional Data Base centres. Maharashtra is the first state which has come forward to create DNA database of offenders.²¹

IX. OTHER COUNTRIES WHICH HAVE IMPLEMENTED A NATIONAL DNA DATABASE :-

1. UNITED STATES

The United States has the DNA database called the Combined DNA Index System (CODIS)²² containing more than 150,000 DNA profiles contributed by 73 countries as of 2014 and National DNA Index (NDIS) which

²⁰ Ian Freckelton, "DNA Profiling : Forensic Science under the Microscope", available at <https://aic.gov.au/sites/default/files/publications/proceedings/downloads/02-freckelton.pdf>, accessed on March 30th 2018

²¹ "Maharashtra to create DNA database of offenders", <https://timesofindia.indiatimes.com/city/mumbai/maharashtra-to-create-dna-database-of-offenders/articleshow/60705938.cms>, accessed on March 30th 2018

²² CODIS is the acronym for the Combined DNA Index System See <https://www.fbi.gov/services/laboratory/biometric-analysis/codis/codis-and-ndis-fact-sheet>, accessed on 29th March 2018

contains over 13,247, 189 offenders profiles, 3,020, 223 arrestee profiles and 837, 348 forensic profiles as of February 2018.²³

2. UNITED KINGDOM

The UK maintains the National DNA Database (NDNAD) set up in 1995. As ON 31st December, 2017 NDNAD have 6,151,593 number of subject samples, most of the samples having been recovered from crime scenes and taken from police suspects.²⁴

3. AUSTRALIA

The Australian national DNA database is known as the National Criminal Investigation DNA Database (NCIDD).²⁵

4. CANADA

The Canadian national DNA database is known as the National DNA Data Bank (NDDDB) which was established in 1988. NDDDB consists of two indexes- the Convicted Offender Index (COI) and National Crime Scene Index. As of March 2018, COI have 364,565 DNA Profiles and Crime scene Index has 143, 963 profiles, in total 509, 528 DNA Profiles of both.²⁶

X. CONCLUSION

The code of criminal procedure and Indian evidence Act were enacted during time when the modern technology like DNA tests was not used extensively. But considering present situation, it is much need of an hour that provisions relating to DNA tests are incorporated in CrPC and Indian Evidence in order to aid the investigation officers in conducting DNA test and also to prove the accused guilty. Despite so much hurdles, DNA testing is a unique technique to exonerate the innocent and helps to convict the guilt.²⁷ Although there are benefits of DNA Fingerprinting, it also suffers from defects which need to be rectified. To quote a few, the testing process takes, on current estimates, between 10 to 20 days per sample. Further, if India wants to record the DNA of everyone who is being arrested for criminal offence, then it is a big task when looking at the arrest rate in India. In 2016-17, the arrest rate of India was 48,31,515.²⁸ Also, in India, for doing a DNA test, Centre for Cellular and Molecular Biology or CCMB in Hyderabad is the only institution or centre which the courts order which

²³See CODIS – NDIS Statistics, available at <https://www.fbi.gov/services/laboratory/biometric-analysis/codis/ndis-statistics>.

²⁴See National DNA Database Statistics, available at <https://www.gov.uk/government/statistics/national-dna-database-statistics>.

²⁵See, National Criminal Investigation DNA Database, available at <https://www.acic.gov.au/our-services/biometric-matching/national-criminal-investigation-dna-database>

²⁶See, Statistics for National DNA Data Bank, available at <http://www.rcmp-grc.gc.ca/nddb-bndg/stats-eng.htm>.

²⁷See, *District Attorney's Office v Osborne* 557 US 52

²⁸See National Crimes Record Bureau, "Crimes in India",

<http://ncrb.gov.in/StatPublications/CII/CII2016/pdfs/NEWPDFs/Crime%20in%20India%20%202016%20Complete%20PDF%20291117.pdf>

eventually makes the DNA result delayed. There must be at least sub-branches of these institutions for better usage of DNA testing. Thus, proper techniques and institutionalized procedure need to be followed. The following measures are needed to be taken in the laboratories to make their procedures standardized:-

1. The laboratories must adhere to Professional laboratory practices²⁹;
2. There must be an uniformity in testing and procedures in the laboratories
3. There need to be Cross-checks done on testing materials;
4. The Measurements made by the laboratories for DNA Profiling should be as objective and verifiable as available technology permits;
5. The biggest problem of possibilities of contamination of the samples must be excluded to the possible extent.
6. There must be vigilant against the possible human errors in DNA profiling.

Also incorporating the suggestions by Malimath Committee is of greater importance:-

1. More well- equipped laboratories should be established to handle DNA samples and evidence.
2. A specific law should be enacted giving guidelines to the police setting uniform standards for obtaining genetic information and creating adequate safeguard to prevent misuse of the same.
3. A national DNA database should be created which will be immensely helpful.

The comments of various reports and commission are also relevant in this regard :-

1. The 185th Law commission report of India recommended the inclusion of DNA testing in the Indian Evidence Act by amending its Section 9, 45 and 112.³⁰
2. Verma Committee report³¹ laid down the need for proper storage and preservation of DNA samples, especially in sexual assault cases.
3. The report of the committee on Draft National Policy on Criminal Justice³² has suggested that Indian Evidence Act needs to be amended so as to make the scientific evidence as 'substantive evidence' admissible in court of law rather than treating them as 'opinion evidence' and to establish its probative value, depending on the complexity of the concerned scientific technique used.

²⁹ In India as of now, there are only 12 Forensic DNA Laboratories.

³⁰ Law Commission of India, 185th report, See <http://lawcommissionofindia.nic.in/reports/185threport-parti.pdf>.

³¹ See Report of the Committee on Amendments to Criminal Law, 23rd January, 2013.

³² See Report of the Committee on Draft National Policy on Criminal Justice, Ministry of Home Affairs, Government of India, July, 2007, available at https://mha.gov.in/sites/upload_files/mha/files/pdf/DraftPolicyPaperAug.pdf.

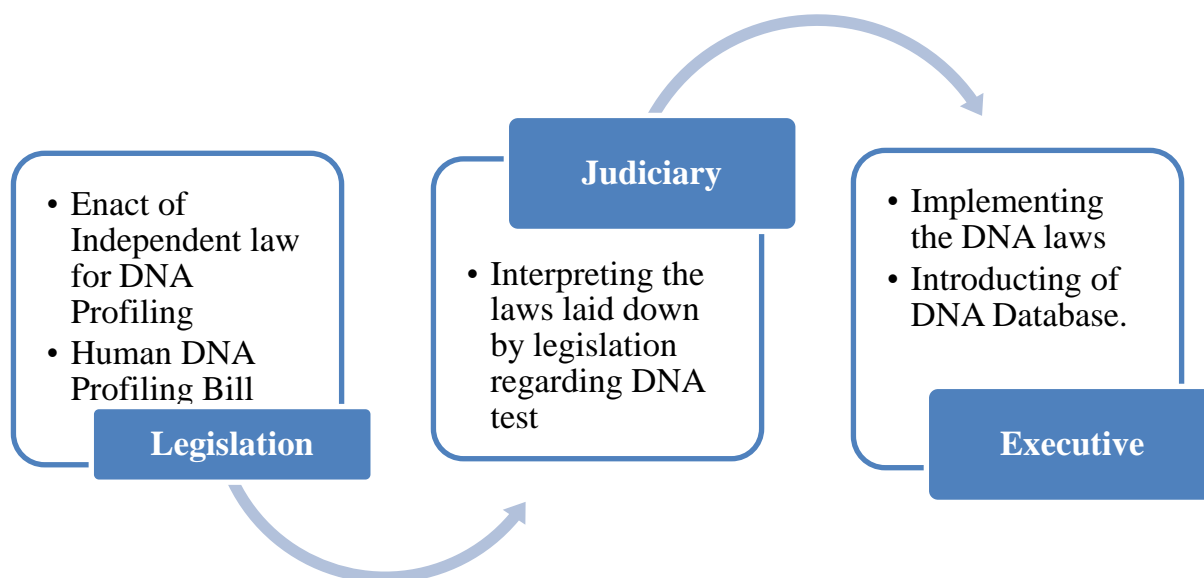


Figure :- Cluster Approach between the three organs of government which is need for the successful implementation of DNA Profiling in India.

Thus, the researcher is of the strong suggestion that there must be a specific legislation for DNA and the DNA database must be formed and effectively monitored by the government. In this modern world with scientific technologies, the crimes are increasing and in order to combat the crimes, scientific techniques like DNA fingerprinting must be order by courts and also in order to make the judiciary function in ease, there is an immediate need of an specific legislation for DNA which could help the judges in interpreting the procedure followed. Thus, there needs to be an cluster approach by the three organs of government, where the legislation needs to enact an independent law for DNA so that it will be admissible in the courts of law and judiciary would also interpret and the execute needs to implement the Law in order to make the maximum utilizing of scientific techniques like DNA fingerprinting to exonerate a innocent and convict the guilty.

“DNA is to the 21st century what fingerprinting was to the 20th” – Deborah Daniels